

Chapter 173-415 WAC

PRIMARY ALUMINUM PLANTS

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WAC

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DISPOSITION OF SECTIONS FORMERLY CODIFIED IN THIS CHAPTER

173-415-041 Emission requirements of prior jurisdictions. [Statutory Authority: RCW 70.94.331. 85-06-048 (Order 84-50), § 173-415-041, filed 3/6/85.] Repealed by 91-05-064 (Order 90-06), filed 2/19/91, effective 3/22/91. Statutory Authority: Chapter 70.94 RCW.

173-415-090 Operating permit. [Statutory Authority: RCW 70.94.331 and 70.94.395. 80-11-028 (Order DE 80-17), § 173-415-090, filed 8/14/80.] Repealed by 83-09-036 (Order DE 83-13), filed 4/15/83. Statutory Authority: Chapters 43.21A and 70.94 RCW.

WAC 173-415-010 Statement of purpose. These rules are enacted under the provisions of the Washington Clean Air Act as amended (RCW 70.94.395) to:

(1) Assume state jurisdiction over emissions from primary aluminum reduction plants to provide for the systematic control of air pollution in this industry and for the proper development of the state's natural resources; and

(2) Establish technically feasible and reasonably attainable standards and revise such standards as new information and better technology are developed and become available.

[Statutory Authority: Chapter 70.94 RCW. 91-05-064 (Order 90-06), § 173-415-010, filed 2/19/91, effective 3/22/91. Statutory Authority: RCW 70.94.331 and 70.94.395. 80-11-028 (Order DE 80-17), § 173-415-010, filed 8/14/80. Formerly WAC 18-52-010.]

WAC 173-415-020 Definitions. The definitions of terms contained in chapter 173-400 WAC are incorporated into this chapter by reference. Unless a different meaning is clearly required by context, the following words and phrases as used in this chapter, shall have the following meanings:

(1) "Fluorides" means compounds of the element fluorine.

(2) "Forage" means grasses, pasture and other vegetation that is normally consumed or is intended to be consumed by livestock.

(3) "Primary aluminum plant" or "primary aluminum reduction plant" or "primary aluminum mill" means a plant which produces aluminum metal from aluminum oxide (alumina). For the purposes of this regulation "primary aluminum plant" is equivalent to "source."

- (4) “Potline primary emission control system” means the equipment and procedures designed to collect and remove contaminants from the exhaust gases which are captured at the pot.

[Statutory Authority: Chapter 70.94 RCW. 91-05-064 (Order 90-06), § 173-415-020, filed 2/19/91, effective 3/22/91. Statutory Authority: RCW 70.94.331. 85-06-048 (Order 84-50), § 173-415-020, filed 3/6/85. Statutory Authority: Chapters 43.21A and 70.94 RCW. 83-09-036 (Order DE 83-13), § 173-415-020, filed 4/15/83. Statutory Authority: RCW 70.94.331 and 70.94.395. 80-11-028 (Order DE 80-17), § 173-415-020, filed 8/14/80. Formerly WAC 18-52-021.]

WAC 173-415-030 Emission standards. In addition to the general applicability of chapters 173-400 and 173-490 WAC to all emission sources; all primary aluminum plants are required to meet the emission standards of this chapter. Specific emissions standards listed in this chapter will take precedence over the general emission standards of chapter 173-400 WAC.

(1) Fluoride.

- (a) The emission of gaseous and particulate fluorides for all emissions units within a primary aluminum plant shall be restricted so that the plant’s emissions will not cause ambient air and forage standards for fluorides established by chapter 173-481 WAC to be exceeded outside the property controlled by the aluminum plant owner(s) or operator(s).
 - (b) Each potline primary emission control system shall be designed so that the control of fluoride emissions will be equivalent to a total fluoride collection efficiency of: (i) Eighty percent for vertical stud soderberg and side worked prebake pots, (ii) eighty-five percent for horizontal stud soderberg pots, and (iii) ninety-five percent for center worked prebake pots. A primary emission control system with a design removal efficiency of at least ninety-five percent of the fluoride collected is required.
- (2) Particulate. The total emission of particulate matter to the atmosphere from the reduction process (potlines) shall be reduced to the lowest level consistent with reasonably available control technology (RACT) for primary aluminum plants. The emission of solid particulate shall not exceed 7.5 grams per kilogram (fifteen pounds per ton) of aluminum produced on a daily basis.
- (3) Visible emissions. Visible emissions from any emissions unit in a primary aluminum plant shall not exceed an average twenty percent opacity for more than six consecutive minutes in any sixty minute period. This provision shall not apply:
- (a) When the presence of uncombined water is the only reason for the opacity of the plume to exceed twenty percent; or
 - (b) When an alternate opacity limit has been established under RCW 70.94.331 (2)(c).
- (4) Fugitive emissions. Each primary aluminum plant shall use RACT to prevent fugitive emissions.
- (5) Sulfur dioxide.

- (a) Total emissions of sulfur dioxide from all emissions units shall not exceed thirty grams of sulfur dioxide per kilogram of aluminum produced on a monthly average (sixty pounds per ton). Those primary aluminum plants which were in excess of the above sulfur dioxide limit on January 1, 1978, will be allowed to emit at the January 1, 1978, level of emissions provided that the owners or operators did demonstrate to ecology by July 1, 1981, by use of modeling and ambient measurements, that the emissions will not cause the ambient standard to be exceeded, and that the limits are placed in a regulatory order(s).
- (b) In no case shall any plant cause or permit the emission of a gas containing sulfur dioxide in excess of one thousand parts per million corrected to dry standard conditions for an hourly average.

- (6) Operation and maintenance. At all times, including periods of abnormal operation and upset, owners and operators shall, to the extent practicable, maintain an affected facility, and operate and maintain air pollution control equipment associated with such facility in a manner consistent with good air pollution control practice. A plant may elect to establish a program, subject to the approval of ecology, for monitoring each potroom in order to demonstrate good operation and maintenance.
- (7) Source testing. To demonstrate compliance with this chapter, the provisions of WAC 173-400-105 shall apply to all sources to which this chapter is applicable.

[Statutory Authority: Chapter 70.94 RCW. 91-05-064 (Order 90-06), § 173-415-030, filed 2/19/91, effective 3/22/91. Statutory Authority: Chapters 43.21A and 70.94 RCW. 83-09-036 (Order DE 83-13), § 173-415-030, filed 4/15/83. Statutory Authority: RCW 70.94.331 and 70.94.395. 80-11-028 (Order DE 80-17), § 173-415-030, filed 8/14/80. Formerly WAC 18-52-031.]

WAC 173-415-040 Standards of performance. The provisions of WAC 173-400-115 “Standards of performance for new sources” shall apply to all sources to which this chapter is applicable.

[Statutory Authority: Chapter 70.94 RCW. 91-05-064 (Order 90-06), § 173-415-040, filed 2/19/91, effective 3/22/91. Statutory Authority: Chapters 70.94 and 43.21A RCW. 82-16-020 (Order DE 82-21), § 173-415-040, filed 7/27/82. Statutory Authority: RCW 70.94.331 and 70.94.395. 80-11-028 (Order DE 80-17), § 173-415-040, filed 8/14/80. Formerly WAC 18-52-051.]

WAC 173-415-045 Creditable stack height and dispersion techniques. The provisions of WAC 173-400-200 shall apply to all sources to which this chapter is applicable.

[Statutory Authority: Chapter 70.94 RCW. 91-05-064 (Order 90-06), § 173-415-045, filed 2/19/91, effective 3/22/91. Statutory Authority: Chapters 70.94 and 43.21A RCW. 88-01-057 (Order 87-50), § 173-415-045, filed 12/16/87.]

WAC 173-415-050 New source review (NSR). The provisions of WAC 173-400-110 shall apply to all new sources and emissions units to which this chapter is applicable.

[Statutory Authority: Chapter 70.94 RCW. 91-05-064 (Order 90-06), § 173-415-050, filed 2/19/91, effective 3/22/91. Statutory Authority: Chapters 43.21A and 70.94 RCW. 83-09-036 (Order DE 83-13), § 173-415-050, filed 4/15/83. Statutory Authority: RCW 70.94.331 and 70.94.395. 80-11-028 (Order DE 80-17), § 173-415-050, filed 8/14/80. Formerly WAC 18-52-056.]

WAC 173-415-051 Prevention of significant deterioration (PSD). The provisions of WAC 173-400-141 shall apply to all new major sources and major modifications to which this chapter is applicable.

[Statutory Authority: Chapter 70.94 RCW. 91-05-064 (Order 90-06), § 173-415-051, filed 2/19/91, effective 3/22/91. Statutory Authority: Chapters 70.94 and 43.21A RCW. 88-01-057 (Order 87-50), § 173-415-051, filed 12/16/87.]

WAC 173-415-060 Monitoring and reporting.

- (1) Each primary aluminum plant shall conduct routine monitoring of emissions, ambient air, and forage in accordance with a program that has been approved by ecology. Results of monitoring shall be reported within thirty days of the end of each calendar month and shall include data as follows:

- (a) Ambient air: Twenty-four hour concentrations of gaseous fluoride in the ambient air expressed in micrograms of hydrogen fluoride per cubic meter of ambient air.
- (b) Forage: Concentrations of fluoride in forage expressed in parts per million of fluoride on a dried weight basis.
- (c) Particulate emissions: Results of all emission sampling conducted during the month for particulates, expressed in grains per standard dry cubic foot, in pounds per day, and in pounds per ton of aluminum produced. The method of calculating pounds per ton shall be as specified in the approved monitoring programs. Particulate data shall be reported as total particulates and percentage of fluoride ion contained therein.

Compliance with WAC 173-415-030(2) shall be determined by measurements of emissions from the potline primary control system plus measurements of emissions from the roof monitor.

- (d) Fluoride emissions: Results of all sampling conducted during the month for fluoride emissions. All results shall be expressed as hydrogen fluoride in parts per million on a volume basis and pounds per day of hydrogen fluoride.
- (e) Other emission and ambient air data as specified in the approved monitoring program.
- (2) Other data: For ecology to evaluate a plant's emissions or emission control program, each primary aluminum plant shall furnish other data requested by ecology.
- (3) Change in raw materials or fuel: Any change or series of changes in raw material or fuel which results in a cumulative increase in emissions of sulfur dioxide of five hundred tons per year or more over that stated in the 1979 inventory required by WAC 173-415-080 shall require the submittal of sufficient information to ecology so that the effect upon ambient concentrations of sulfur dioxide can be determined. Ecology may issue regulatory orders requiring controls to reduce the effect of such increases.

[Statutory Authority: Chapter 70.94 RCW. 91-05-064 (Order 90-06), § 173-415-060, filed 2/19/91, effective 3/22/91. Statutory Authority: RCW 70.94.331 and 70.94.395. 80-11-028 (Order DE 80-17), § 173-415-060, filed 8/14/80. Formerly WAC 18-52-061 and 18-52-071.]

WAC 173-415-070 Report of startup, shutdown, breakdown or upset conditions. The provisions of WAC 173-400-105(5) shall apply to all sources to which this chapter is applicable.

[Statutory Authority: Chapter 70.94 RCW. 91-05-064 (Order 90-06), § 173-415-070, filed 2/19/91, effective 3/22/91. Statutory Authority: Chapters 43.21A and 70.94 RCW. 83-09-036 (Order DE 83-13), § 173-415-070, filed 4/15/83. Statutory Authority: RCW 70.94.331 and 70.94.395. 80-11-028 (Order DE 80-17), § 173-415-070, filed 8/14/80. Formerly WAC 18-52-077.]

WAC 173-415-080 Emission inventory. The provisions of WAC 173-400-105(1) shall apply to all sources to which this chapter is applicable.

[Statutory Authority: Chapter 70.94 RCW. 91-05-064 (Order 90-06), § 173-415-080, filed 2/19/91, effective 3/22/91. Statutory Authority: Chapters 43.21A and 70.94 RCW. 89-02-055 (Order 88-39), § 173-415-080, filed 1/3/89; 83-09-036 (Order DE 83-13), § 173-415-080, filed 4/15/83. Statutory Authority: RCW 70.94.331 and 70.94.395. 80-11-028 (Order DE 80-17), § 173-415-080, filed 8/14/80. Formerly WAC 18-52-086.]